

What is claimed is:

1. An electroless Ni-B plating liquid for forming a Ni-B alloy
5 film on at least part of interconnects of an electronic device
having an embedded interconnect structure, said electroless Ni-B
plating liquid comprising nickel ions, a complexing agent for said
nickel ions, a reducing agent for said nickel ions, and ammoniums
(NH_4^+).
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2. The electroless Ni-B plating liquid according to claim 1,
wherein said reducing agent comprises an alkylamine borane or a
hydrogen boride compound.
- 15 3. The electroless Ni-B plating liquid according to claim 1,
wherein said ammoniums are prepared from ammonia water.
4. The electroless Ni-B plating liquid according to claim 1,
wherein a pH of said electroless Ni-B plating liquid is adjusted
20 within the range from 8 to 12.
5. The electroless Ni-B plating liquid according to claim 1,
wherein a temperature of said electroless Ni-B plating liquid is
adjusted within the range from 50 °C to 90 °C.
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6. An electronic device having an embedded interconnect
structure of silver, silver alloy, copper or copper alloy, wherein
a surface of an interconnect is selectively covered with a

protective layer of a Ni-B alloy film.

7. The electronic device according to claim 6, wherein said Ni-B alloy film has an FCC crystalline structure.

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8. The electronic device according to claim 6, wherein said Ni-B alloy film has a boron content within the range from 0.01 at% to 10 at%.

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9. The electronic device according to claim 6, wherein said Ni-B alloy film is formed by an electroless-plating process with use of an electroless Ni-B plating liquid, said electroless Ni-B plating liquid comprising nickel ions, a complexing agent for said nickel ions, a reducing agent for said nickel ions, and ammoniums (NH₄⁺).

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10. The electronic device according to claim 9, wherein said Ni-B alloy film has an FCC crystalline structure.

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11. The electronic device according to claim 9, wherein said Ni-B alloy film has a boron content within the range from 0.01 at% to 10 at%.

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12. A method for manufacturing an electronic device, comprising;

electroless plating an electronic device having an embedded interconnect structure with an electroless Ni-B plating liquid to form a protective layer of a Ni-B alloy film selectively on a surface

of an interconnect of said electronic device;

wherein said electroless Ni-B plating liquid comprises nickel ions, a complex agent for nickel ions, a reducing agent for nickel ions, and ammoniums (NH_4^+).

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13. The method according to claim 12, wherein said Ni-B alloy film has an FCC crystalline structure.

14. The method according to claim 12, wherein said Ni-B alloy
10 film has a boron content within the range from 0.01 at% to 10 at%.